A

YAMAHA

R-V902

Natural Sound AV Receiver

Thank you for selecting this YAMAHA AV receiver.

OWNER'S MANUAL

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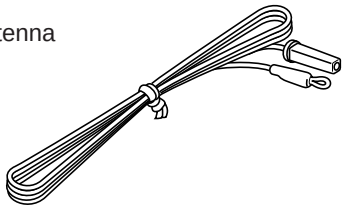
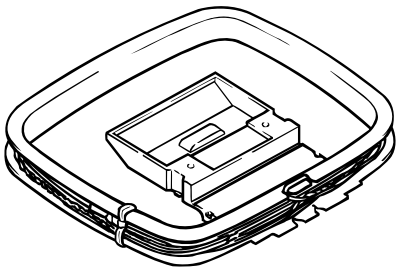
SUPPLIED ACCESSORIES

After unpacking, check that the following parts are included.

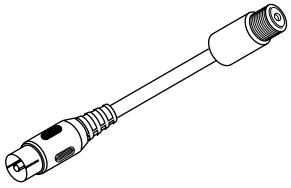
Indoor FM Antenna



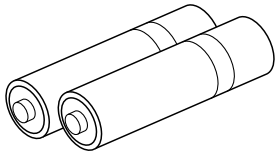
AM Loop Antenna



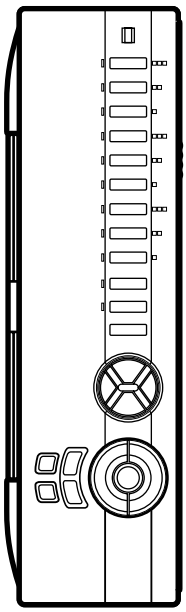
Antenna adapter (U.S.A. and Canada models only)



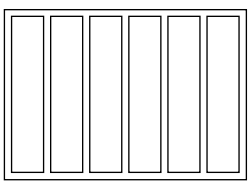
Batteries (size AA, R6, UM-3)



Remote Control Transmitter



User function stickers



FEATURES

- **5 Speaker Configuration**
  Main: 90W + 90W (8Ω) RMS Output Power, 0.07% THD, 1 kHz
  Center: 90W (8Ω) RMS Output Power, 0.07% THD, 1 kHz
  Rear: 35W + 35W (8Ω) RMS Output Power, 0.3% THD, 1 kHz
- **Digital Sound Field Processor**
- **Dolby Pro Logic Surround Decoder**
- **Theater-like Sound Experience by the Combination of Dolby Pro Logic and YAMAHA DSP Technology (CINEMA DSP)**
- **Automatic Input Balance Control for Dolby Pro Logic Surround**
- **Test Tone Generator for Easier Speaker Balance Adjustment**
- **3 Center Channel Modes (NORMAL/WIDE/PHANTOM)**
- **BASS EXTENSION Switch for Reinforcing Bass Response**
- **40-Station Random Access Preset Tuning**
- **Automatic Preset Tuning**
- **Preset Station Shifting Capability (Preset Editing)**
- **IF Count Direct PLL Synthesizer Tuning System**
- **Video Signal Input/Output Capability**
- **6-Channel Discrete Input Terminals for Connecting with a Dolby Digital (AC-3) Decoder**
- **SLEEP Timer**
- **“Learning” Remote Control Transmitter**

CAUTION: READ THIS BEFORE OPERATING YOUR UNIT.

1. To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.

2. Install this unit in a cool, dry, clean place – away from windows, heat sources, sources of excessive vibration, dust, moisture and cold. Avoid sources of humming (transformers, motors). To prevent fire or electrical shock, do not expose the unit to rain or water.

3. Never open the cabinet. If something drops into the set, contact your dealer.

4. Do not use force on switches, controls or connection wires. When moving the unit, first disconnect the power plug and the wires connected to other equipment. Never pull the wires themselves.

5. The openings on the cabinet assure proper ventilation of the unit. If these openings are obstructed, the temperature inside the cabinet will rise rapidly. Therefore, avoid placing objects against these openings, and install the unit in well-ventilated condition. Make sure to allow a space of at least 10 cm behind, 20 cm on the both sides and 30 cm above the top panel of the unit. Otherwise it may not only damage the unit, but also cause fire.

6. Always set the VOLUME control to "– ∞" before starting the audio source play. Increase the volume gradually to an appropriate level after playback has been started.

7. Do not attempt to clean the unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.

8. Be sure to read the "TROUBLESHOOTING" section regarding common operating errors before concluding that the unit is faulty.

9. When not planning to use this unit for long periods of time (ie., vacation, etc.), disconnect the AC power plug from the wall outlet.

10. To prevent lightning damage, disconnect the AC power plug and disconnect the antenna cable when there is an electrical storm.

11. Grounding or polarization – Precautions should be taken so that the grounding or polarization of an appliance is not defeated.

12. AC outlet
    Do not connect audio equipment to the AC outlet on the rear panel if that equipment requires more power than the outlet is rated to provide.

13. **Voltage Selector (General Model only)**
    The voltage selector on the rear panel of this unit must be set for your local main voltage BEFORE plugging into the AC main supply.
    Voltages are 110/120/220/240 V AC, 50/60 Hz.

This unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if this unit itself is turned off.
In this state, this unit is designed to consume a very small quantity of power.

IMPORTANT
Please record the serial number of this unit in the space below.

Serial No.:

The serial number is located on the rear of the unit.
Retain this Owner's Manual in a safe place for future reference.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

FOR CANADIAN CUSTOMERS

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT AND FULLY INSERT.

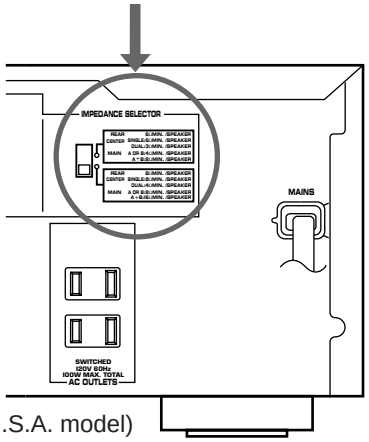
THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

FREQUENCY STEP switch (General Model only)
Because the interstation frequency spacing differs in different areas, set the FREQUENCY STEP switch (located at the rear) according to the frequency spacing in your area. Before setting this switch, disconnect the AC power plug of this unit from the AC outlet.

WARNING
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.

IF THIS UNIT FAILS TO TURN ON WHEN THE POWER SWITCH IS PRESSED
The **IMPEDANCE SELECTOR** switch may not be set to either end closely. If so, set the switch to either end closely.

IMPEDANCE SELECTOR



(U.S.A. model)

PROFILE OF THIS UNIT

You are the proud owner of a Yamaha stereo receiver –an extremely sophisticated audio component. The Digital Sound Field Processor (DSP) built into this unit takes advantage of Yamaha's undisputed leadership in the field of digital audio processing to bring you a whole new world of listening experiences. Follow the instructions in this manual carefully when setting up your system, and this unit will sonically transform your room into a wide range of listening environments –movie theater, concert hall, and so on. In addition, you get incredible realism from sources encoded with Dolby Surround using the built-in Dolby Pro Logic Surround Decoder.
Please read this operation manual carefully and store it in a safe place for later reference.

Digital Sound Field Processing

What is it that makes live music so good? Today's advanced sound reproduction technology lets you get extremely close to the sound of a live performance, but chances are you'll still notice something missing: the acoustic environment of the live concert hall. Extensive research into the exact nature of the sonic reflections that create the ambience of a large hall has made it possible for Yamaha engineers to bring you this same sound in your own listening room, so you'll feel all the sound of a live concert.

Furthermore, our technicians, armed with sophisticated measuring equipment, have even made it possible to capture the acoustics of a variety of venues such as an actual concert hall, theater, etc. to allow you to accurately recreate one of several actual live performance environments, all in your own home.

Dolby Pro Logic Surround

This unit employs a Dolby Pro Logic Surround decoder similar to professional Dolby Stereo decoders used in many movie theaters. By using the Dolby Pro Logic Surround decoder, you can experience the dramatic realism and impact of Dolby Surround movie theater sound in your own home. Dolby Pro Logic employs a four channel five speaker system. The Pro Logic Surround system divides the input signal into four levels: the left and right main channels, the center channel (used for dialog), and the rear surround sound channels (used for sound effects, background noise, and other ambient noises). The center channel allows listeners seated in even less-than-ideal positions to hear the dialog originating from the action on the screen while experiencing good stereo imaging.
Dolby Surround is encoded on the sound track of pre-recorded video tapes, laser discs, and some TV/cable broadcasts. When you play a source encoded with Dolby Surround on this unit, the Dolby Pro Logic Surround decoder decodes the signal and distributes the surround-sound effects.

This Dolby Pro Logic Surround Decoder employs a digital signal processing system. This system improves the stability of sound at each channel and minimizes crosstalk between channels, so that positioning of sounds around the room is more accurate compared with conventional analog signal processing systems.
In addition, this unit features a built-in automatic input balance control. This always assures you the best performance without manual adjustment.

Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", "AC-3", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Dolby Pro Logic Surround + DSP

Dolby Surround sound system shows its full ability in a large movie theater, because movie sounds are originally designed to be reproduced in a large movie theater using many speakers. It is difficult to create a sound environment similar to that of a movie theater in your listening room, because the room size, materials of inside walls, the number of speakers, etc. of your listening room is much different from those of a movie theater.
Yamaha DSP technology made it possible to present you with nearly the same sound experience as that of a large movie theater in your listening room by compensating for lack of presence and dynamics in your listening room with its original digital sound fields combined with Dolby Surround sound field.

The combination of Dolby Pro Logic Surround and DSP is used on the sound field program " DD PRO LOGIC ENHANCED".

CINEMA DSP

The YAMAHA "CINEMA DSP" logo indicates these programs are created by the combination of Dolby Pro Logic and YAMAHA DSP technology.

SPEAKER SETUP

SPEAKERS TO BE USED

This unit is designed to provide the best sound-field quality with a 5 speaker configuration. The most effective speakers to use with this unit are main speakers, rear speakers and a center speaker. You may omit the center speaker. (Refer to the "**4-Speaker Configuration**" shown below.)
The main speakers are used for the main source sound plus the effect sounds. They will probably be the speakers from your present stereo system. The rear speakers are used for the effect and surround sounds, and the center speaker is for the center sounds (dialog etc.) within programs encoded with Dolby Surround. The center speaker needs to be equal in power to the main speakers, although the rear speakers should not be equal. However, all the speakers should have high enough power handling to accept the maximum output of this unit.

SPEAKER CONFIGURATION

5-Speaker Configuration

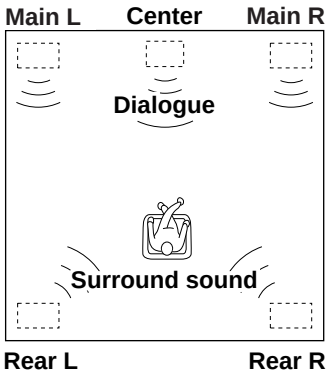
This configuration is the most effective and recommended one. In this configuration, the center speaker is necessary as well as the rear speakers. If the program **DOLBY PRO LOGIC** or **DOLBY PRO LOGIC ENHANCED** is selected, conversations will be output from the center speaker and the ambience will be excellent.

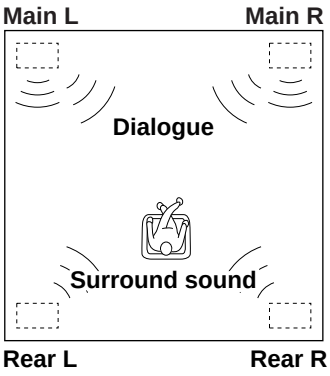
- Set the center channel mode to the "**NORMAL**" or "**WIDE**" position. (For details, refer to page 18.)

4-Speaker Configuration

The center speaker is not used in this configuration. If the program **DOLBY PRO LOGIC** or **DOLBY PRO LOGIC ENHANCED** is selected, the center sound is output from the left and the right main speakers. However, the sound effect of other programs can be the same as that of the 5-speaker configuration.

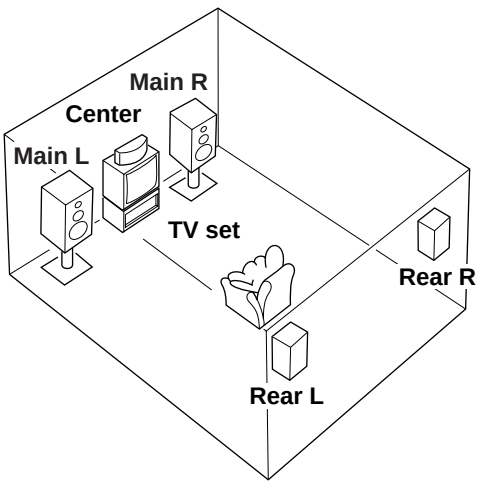
- Be sure to set the center channel mode to the "**PHANTOM**" position. (For details, refer to page 18.)





SPEAKER PLACEMENT

The recommended speaker configuration, the 5-speaker configuration, will require two speaker pairs: **main speakers** (your normal stereo speakers), and **rear speakers**, plus a **center speaker**. When you place these speakers, refer to the following.



Main: In normal position. (The position of your present stereo speaker system.)
Rear: Behind your listening position, facing slightly inward. Nearly six feet (approx. 1.8 m) up from the floor.
Center: Precisely between the main speakers. (To avoid interference with TV sets, use a magnetically shielded speaker.)

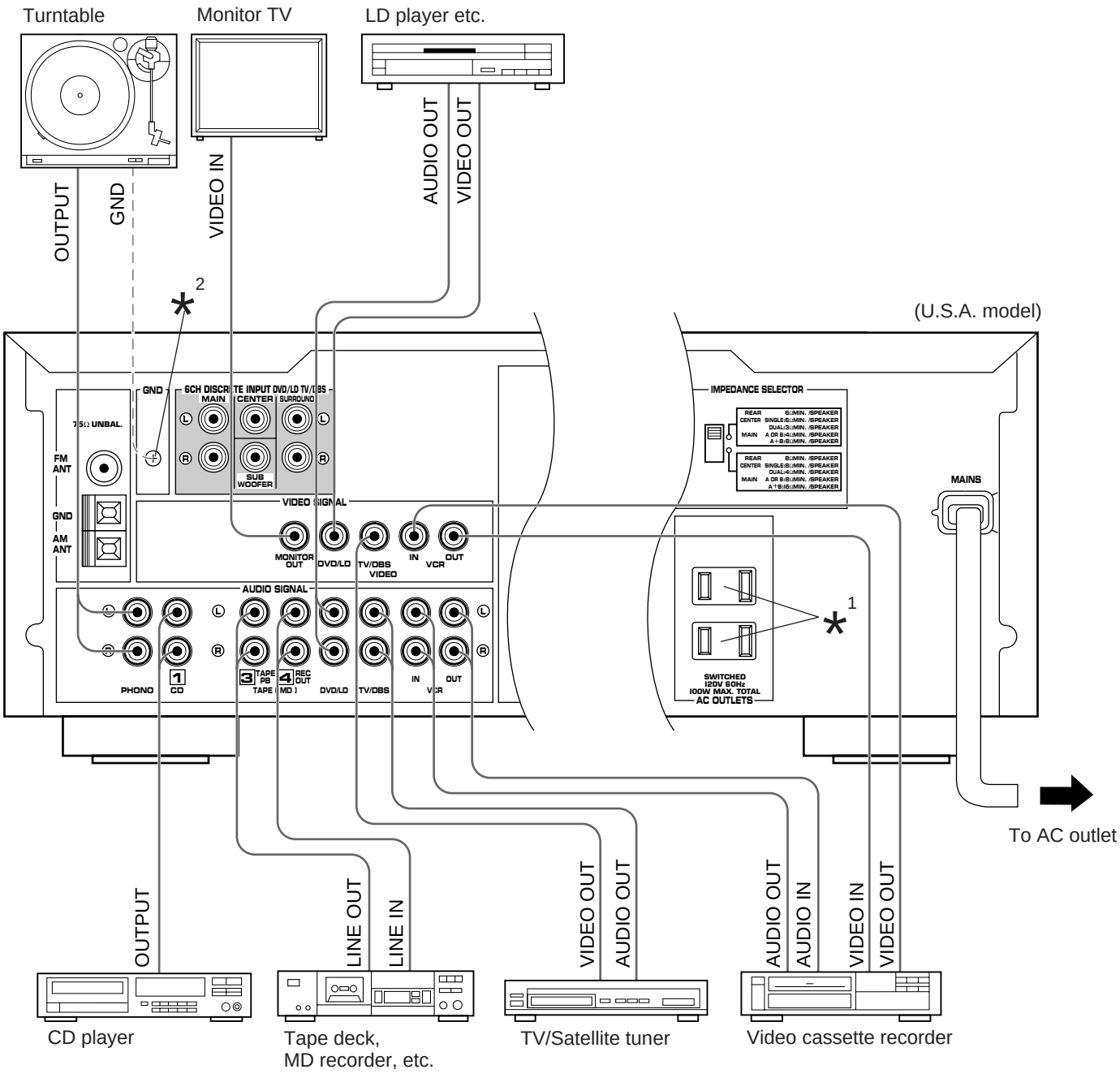
CONNECTIONS

Never plug in this unit and other components until all connections are completed.

CONNECTIONS WITH OTHER COMPONENTS

When making connections between this unit and other components, be sure all connections are made correctly, that is to say **L** (left) to **L**, **R** (right) to **R**, "**+**" to "**+**" and "**–**" to "**–**". Also, refer to the owner's manual for each component to be connected to this unit.

* If you have YAMAHA components numbered as 1, 2, 3, etc. on the rear panel, connections can be made easily by making sure to connect the output (or input) terminals of each component to the same-numbered terminals of this unit.



*1, *2 : See the next page.

*1 AC OUTLET(S) (SWITCHED)

[U.S.A., Canada and General models]
..... 2 SWITCHED OUTLETS
[Australia model]..... 1 SWITCHED OUTLET

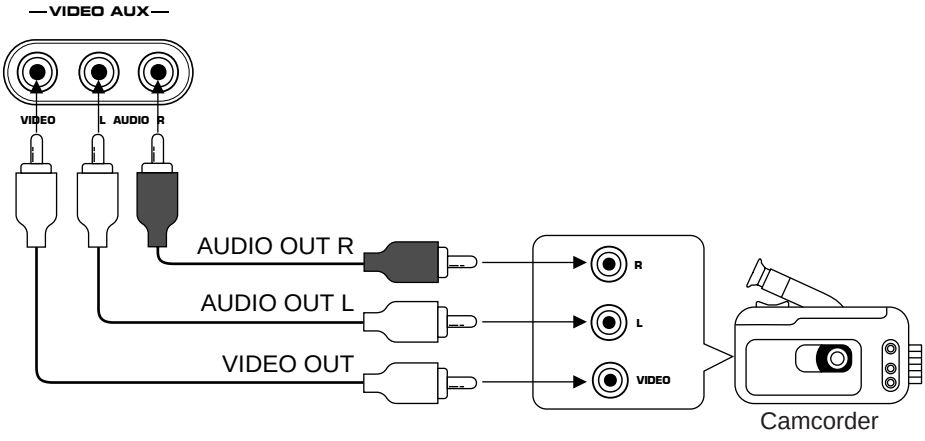
Use these to connect the power cords from your components to this unit.
The power to the **SWITCHED** outlets is controlled by this unit's **POWER** switch or the provided remote control transmitter's **POWER** key. These outlets will supply power to any component whenever this unit is turned on.
The maximum power (total power consumption of components) that can be connected to the **SWITCHED AC OUTLET(S)** is 100 watts.

*2 GND terminal (For turntable use)

Connecting the ground wire of the turntable to the **GND** terminal will normally minimize hum, but in some cases better results may be obtained with the ground wire disconnected.

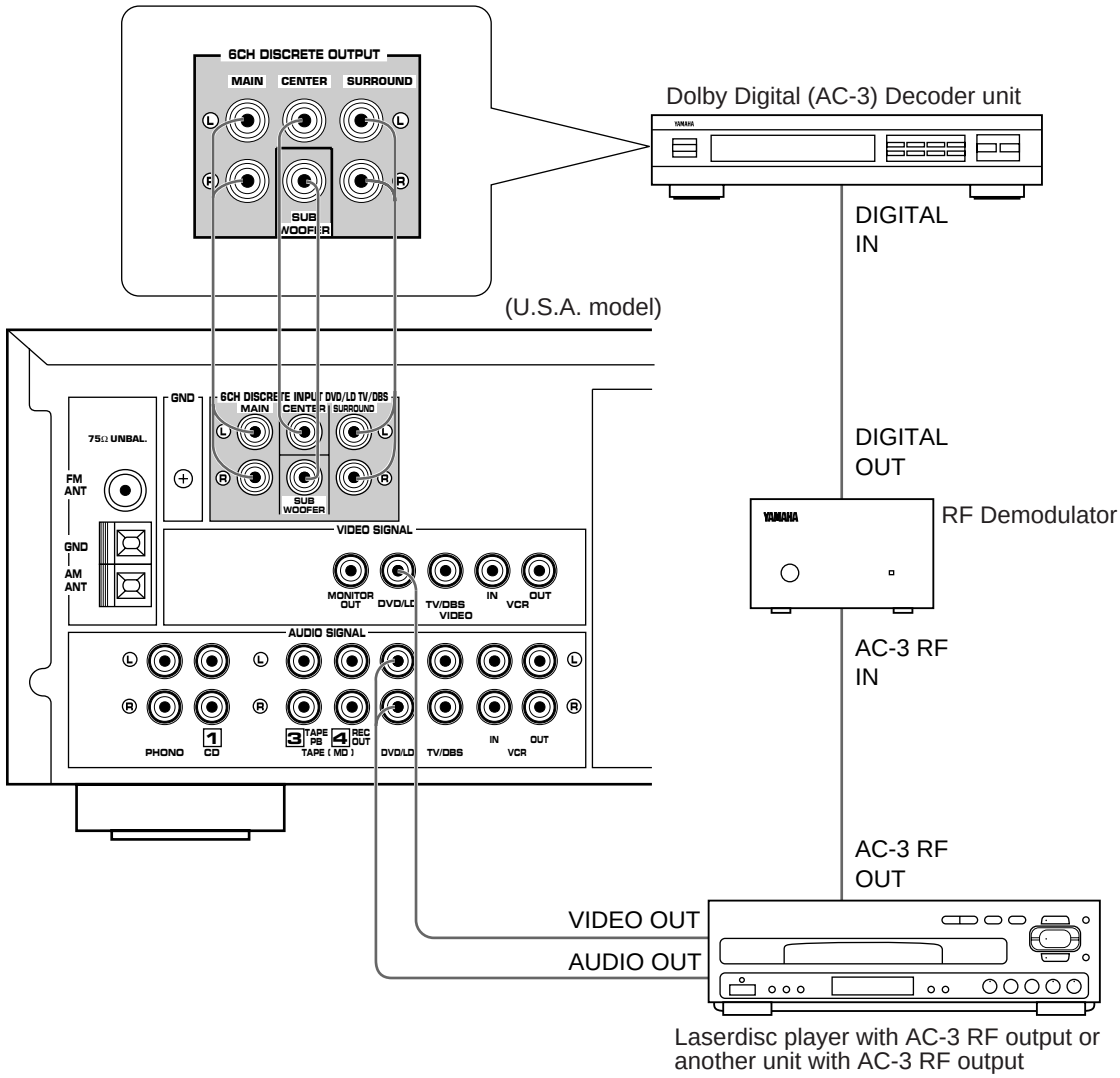
CONNECTING TO VIDEO AUX TERMINALS (ON THE FRONT PANEL)

These terminals are used to connect any video input source such as a camcorder to this unit.



Connecting with a Dolby Digital (AC-3) Decoder

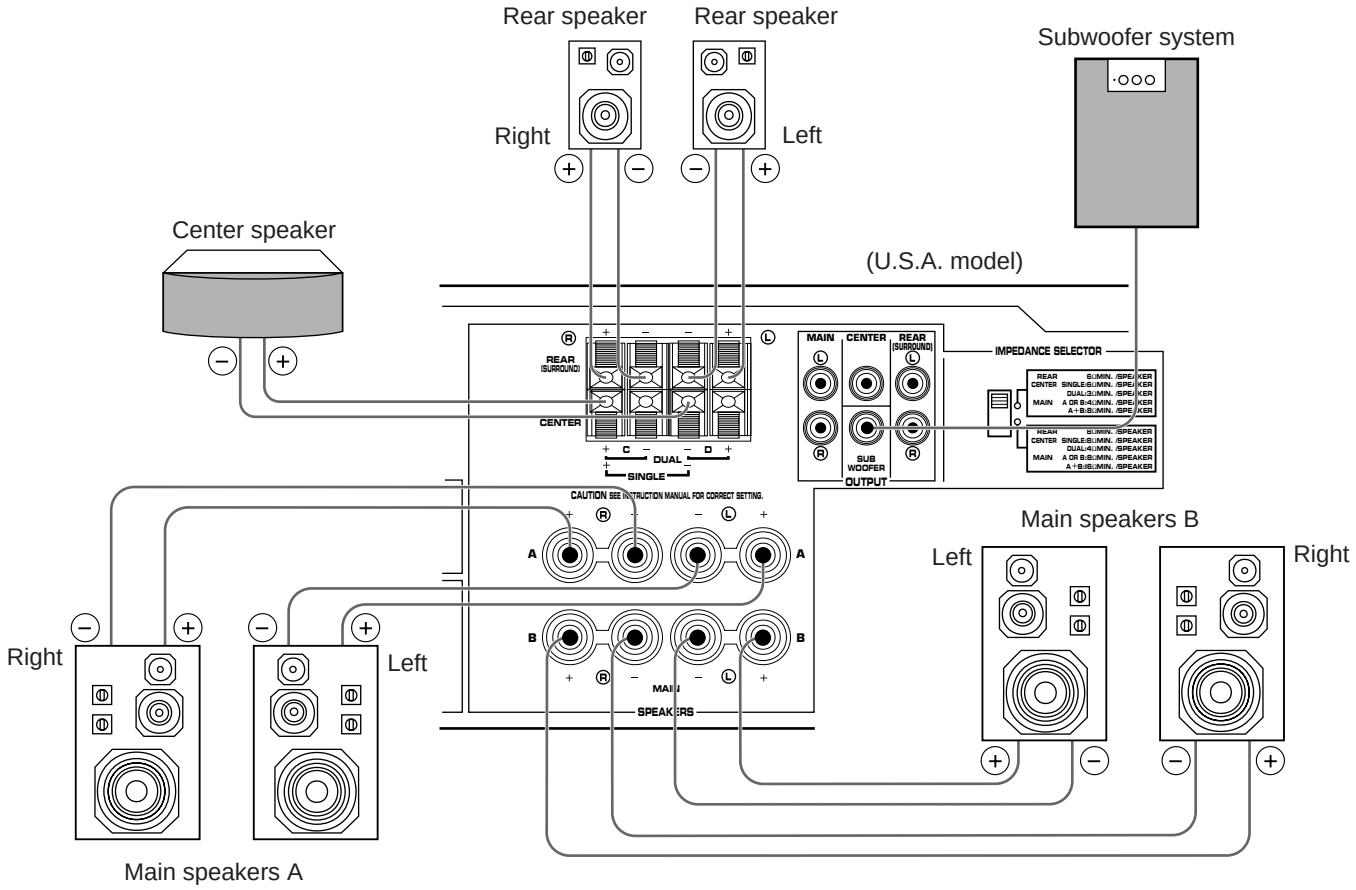
If you have a Dolby Digital (AC-3) Decoder unit or an LD player etc. which incorporates a Dolby Digital (AC-3) Decoder, its discrete outputs can be connected to this unit.



Notes

- The laserdisc player (or another unit) must be also connected to the DVD/LD (or TV/DBS) AUDIO SIGNAL input terminals of this unit for playing a source with the Dolby Pro Logic Surround decoded or in normal stereo (or monaural).
- The discrete signals input to this unit cannot be recorded by a tape deck, MD recorder or VCR. To record a source played on the laserdisc player (or another unit), it must be connected to the DVD/LD (or TV/DBS) AUDIO/VIDEO SIGNAL input terminals of this unit.
- If you made no connection to the SUBWOOFER input terminal of this unit or you will not use a subwoofer, you should make a setting for distributing signals at the LFE channel to the right and left MAIN output terminals on the Dolby Digital (AC-3) Decoder unit.
  For details, refer to the owner's manual for the Dolby Digital (AC-3) Decoder unit.

CONNECTING SPEAKERS

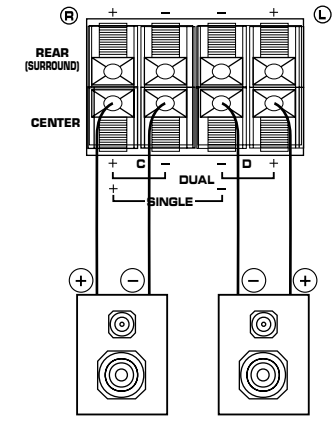


Note
Use speakers with the specified impedance shown on the rear of this unit.

Note on main speaker connections:
One or two speaker systems can be connected to this unit. If you use only one speaker system, connect it to either the **SPEAKERS A** or **B** terminals.

Note on a subwoofer connection:
You may wish to add a subwoofer to reinforce low frequencies or to output low bass sound from the subwoofer channel when reproducing discrete signals.
Connect the **SUBWOOFER OUTPUT** terminal of this unit to the INPUT terminal of the subwoofer amplifier, and connect the speaker terminals of the subwoofer amplifier to the subwoofer. With some subwoofers, including the Yamaha Active Servo Processing Subwoofer System, the amplifier and subwoofer are in the same unit.

Note on center speaker connection:
One or two center speakers can be connected to this unit. If you cannot place the center speaker on or under the TV, it is recommended to use two center speakers and place them on both sides of the TV to orient the center sound at the center position. For connecting two center speakers, follow the method shown below.



How to Connect:

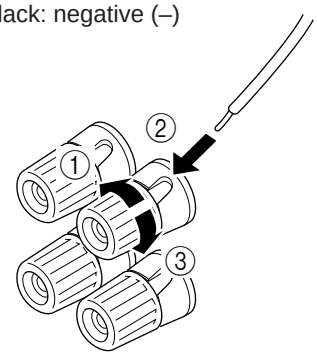
Connect the **SPEAKERS** terminals to your speakers with wire of the proper gauge, cut as short as possible. If the connections are faulty, no sound will be heard from the speakers. Make sure that the polarity of the speaker wires is correct, that is the + and – markings are observed. If these wires are reversed, the sound will be unnatural and lack bass.

Caution

Do not let the bare speaker wires touch each other and do not let them touch any metal part of this unit. This could damage this unit and/or speakers.

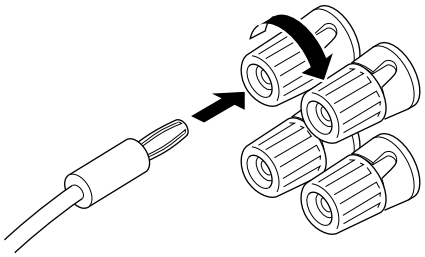
For connecting to the MAIN SPEAKERS terminals

Red: positive (+)
Black: negative (–)



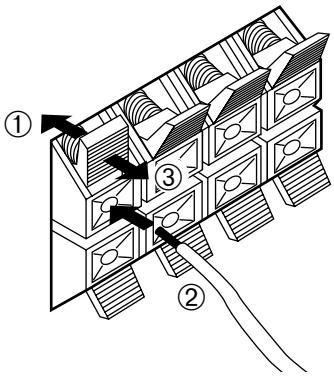
① Unscrew the knob.
② Insert the bare wire. [Remove approx. 5mm (1/4") insulation from the speaker wires.]
③ Tighten the knob and secure the wire.

Banana Plug connections are also possible. Simply insert the Banana Plug connector into the corresponding terminal.



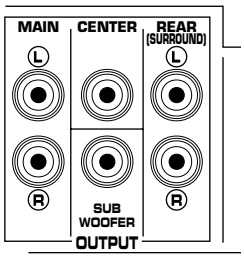
For connecting to the REAR and CENTER SPEAKERS terminals

Red: positive (+)
Black: negative (–)



① Press the tab.
② Insert the bare wire. [Remove approx. 5mm (1/4") insulation from the speaker wires.]
③ Release the tab and secure the wire.

OUTPUT terminals (for driving speakers with external amplifiers)



MAIN OUTPUT terminals

These terminals are for main channel line output. There is no connection to these terminals when you use the built-in amplifier.
However, if you drive main speakers with an external stereo power amplifier, connect the input terminals of the external amplifier (MAIN IN or AUX terminals of a power amplifier or an integrated amplifier) to these terminals.

* Output signals from the MAIN OUTPUT terminals only are affected by the use of **BASS**, **TREBLE**, **BALANCE** controls and **BASS EXTENSION** switch.

CENTER OUTPUT terminal

This terminal is for center channel line output. There is no connection to this terminal when you use the built-in amplifier. However, if you drive a center speaker with an external power amplifier, connect the input terminal of the external amplifier to this terminal.

REAR (SURROUND) OUTPUT terminals

These terminals are for rear channel line output. There is no connection to these terminals when you use the built-in amplifier.
However, if you drive rear speakers with an external stereo power amplifier, connect the input terminals of the external amplifier (MAIN IN or AUX terminals of a power amplifier or an integrated amplifier) to these terminals.

SUBWOOFER OUTPUT terminal

This terminal is for connecting with the input terminal of an amplifier for driving a subwoofer.
When the input signals to this unit are in normal 2-channel stereo, this terminal outputs only frequencies below 200 Hz from the main and center channels. When discrete signals are input to this unit and are selected as the input source, this terminal outputs signals from the subwoofer channel.

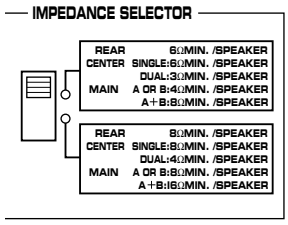
Note
Output level of signals from all of these terminals are adjusted by the use of **VOLUME** control on the front panel or **MASTER VOLUME** keys on the remote control transmitter.

IMPEDANCE SELECTOR switch

Be sure to switch this only when the power of this unit is turned off.
Select the position whose requirements your speaker system meets.

WARNING
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.

IF THIS UNIT FAILS TO TURN ON WHEN THE POWER SWITCH IS PRESSED
The **IMPEDANCE SELECTOR** switch may not be set to either end closely. If so, set the switch to either end closely.



(U.S.A. model)

(Upper position)

Rear: The impedance of each speaker must be 6Ω or higher.

Center: If you use one center speaker, the impedance of the speaker must be 6Ω or higher.
If you use two center speakers, the impedance of each speaker must be 3Ω or higher.

Main: If you use one pair of main speakers, the impedance of each speaker must be 4Ω or higher.
If you use two pairs of main speakers, the impedance of each speaker must be 8Ω or higher.

(Lower position)

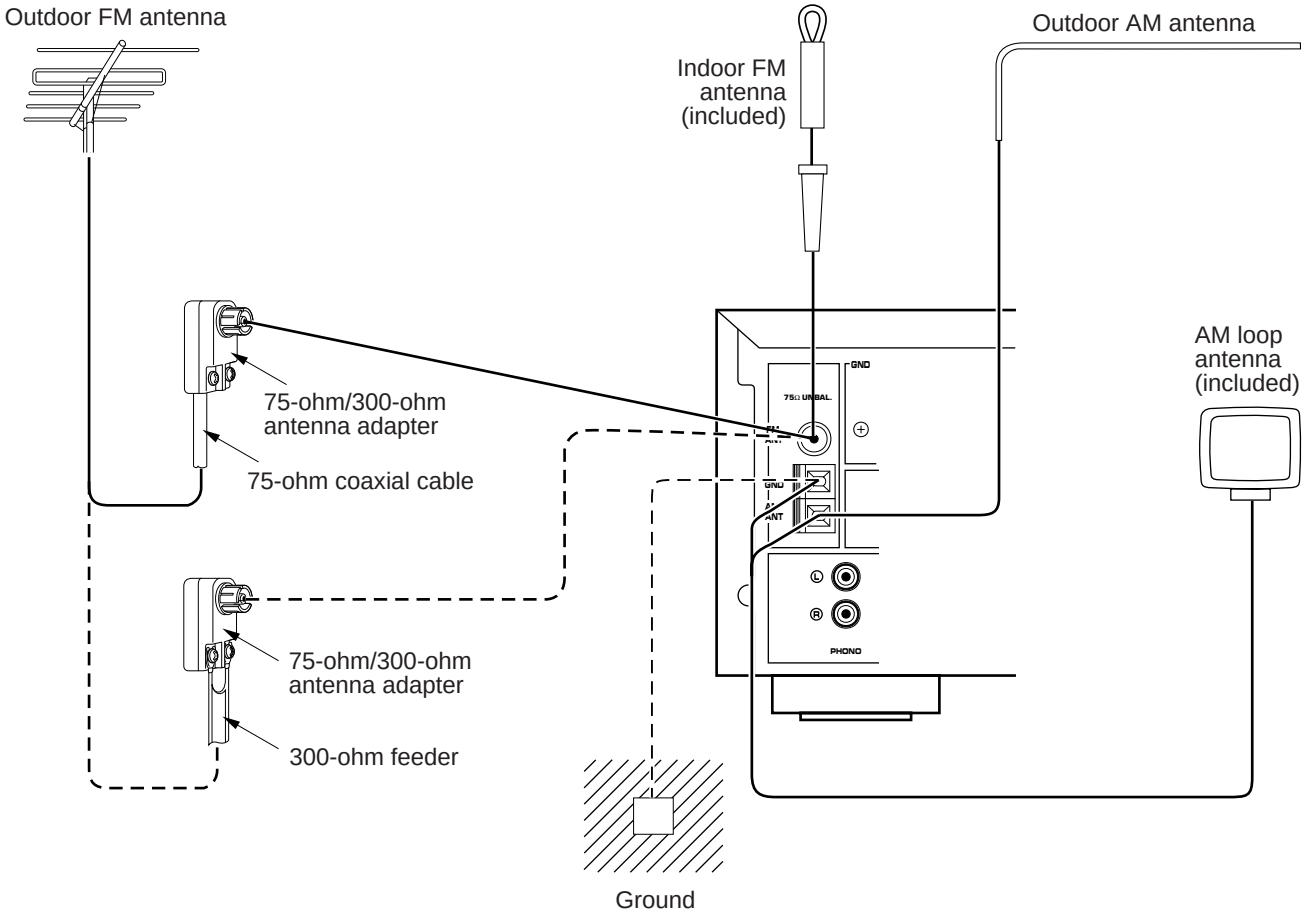
Rear: The impedance of each speaker must be 8Ω or higher.

Center: If you use one center speaker, the impedance of the speaker must be 8Ω or higher.
If you use two center speakers, the impedance of each speaker must be 4Ω or higher.

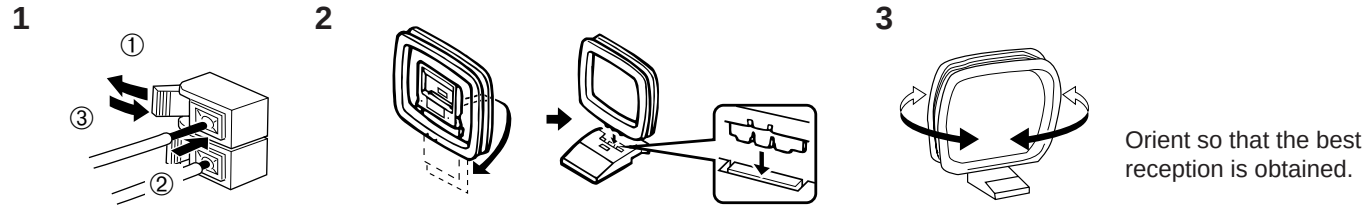
Main: If you use one pair of main speakers, the impedance of each speaker must be 8Ω or higher.
<Except Canada model>
If you use two pairs of main speakers, the impedance of each speaker must be 16Ω or higher.

ANTENNA CONNECTIONS

- Each antenna should be connected to the designated terminals correctly, referring to the following diagram.
- Both AM and FM indoor antennas are included with this unit. In general, these antennas will probably provide sufficient signal strength. Nevertheless, a properly installed outdoor antenna will give clearer reception than an indoor one. If you experience poor reception quality, an outdoor antenna may result in improvement.



Connecting the AM loop antenna



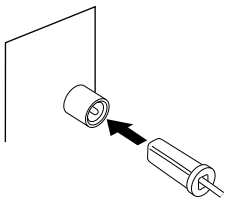
* The AM loop antenna should be placed apart from the main unit. The antenna may be hung on a wall.
* The AM loop antenna should be kept connected, even if an outdoor AM antenna is connected to this unit.

GND terminal

For maximum safety and minimum interference, connect the **GND** terminal to a good earth ground. A good earth ground is a metal stake driven into moist earth.

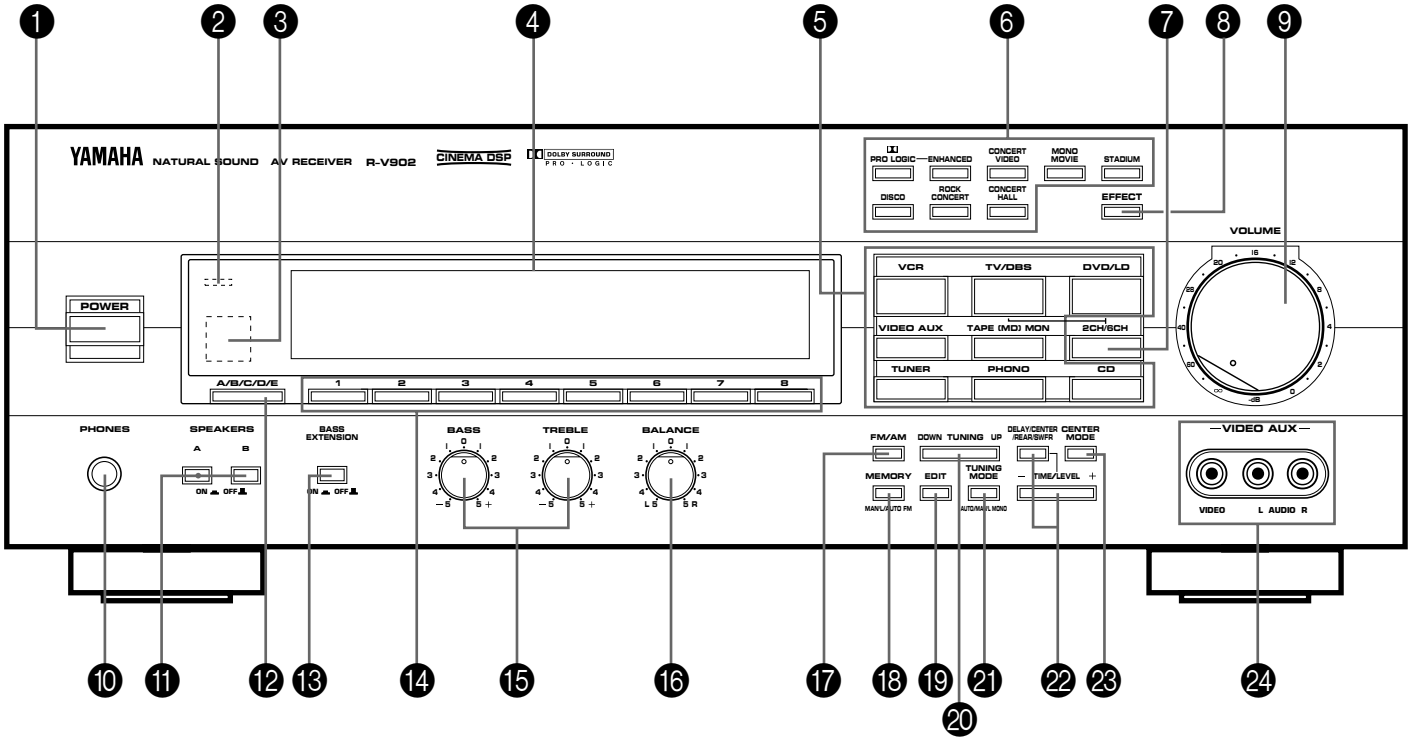
Notes

- When connecting the indoor FM antenna, insert its connector into the **FM ANT** terminal firmly.
- If you need an outdoor FM antenna to improve FM reception quality, either 300-ohm feeder or coaxial cable may be used. In locations troubled by electrical interference, coaxial cable is preferable.



CONTROLS AND THEIR FUNCTIONS

FRONT PANEL



❶ POWER switch
Press this switch to switch the power on. Press it again to switch the power off.

❷ Standby mode indicator
(Except U.S.A. and Canada models)
While the power is on, pressing the **SYSTEM POWER OFF** key on the remote control transmitter switches the unit to the standby mode. In this mode, this indicator is illuminated.

❸ Remote control sensor
Receives signals from the remote control transmitter.

❹ Display panel
Shows various information. (Refer to page 16 for details.)

❺ Input selector buttons
Select a program source to listen to or watch. When a button is pressed, the name of selected source appears on the display.

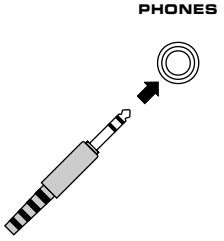
❻ DSP program selector buttons
Select a DSP program. When a button is pressed, the name of selected program lights up on the display.

❼ 2CH/6CH selector button
When the **TV/DBS** or **DVD/LD** input source is selected, pressing this button switches the input signals between 2 channel stereo signals and 6 channel discrete signals. When switched to “6CH”, discrete signals from the unit connected to the 6CH DISCRETE INPUT DVD/LD TV/DBS terminals of this unit are selected as the input signals.

❽ EFFECT button
Switches on/off the digital sound field processor (including the Dolby Pro Logic Surround decoder).

❾ VOLUME control
Used to raise or lower the volume level.

❿ PHONES jack
When you listen with headphones, connect the headphones to the **PHONES** jack. You can listen to the sound to be output from the main speakers through headphones.
When listening with headphones privately, set both the **SPEAKERS A** and **B** switches to the **OFF** position and switch off the digital sound field processor (so that no DSP program name is illuminated on the display) by pressing the **EFFECT** button.



⓫ SPEAKERS switches
Set the switch **A** or **B** (or both **A** and **B**) for the main speaker system (connected to this unit) you will use to the **ON** position. Set the switch for the main speaker system you will not use to the **OFF** position.

⓬ A/B/C/D/E button
Press this button to select a desired group (A–E) of preset stations.

⓭ BASS EXTENSION switch
When this switch is pressed inward (ON), boosts bass frequency response at the main left and main right channels while maintaining overall tonal balance. If you do not have a subwoofer, the use of this switch will be effective to reinforce the bass frequencies.

⓮ Preset station number selector buttons
Select a preset station number (1 to 8).

⓯ Tone controls
These controls are effective only for the sound from the main speakers.
BASS
Used to increase or decrease the low frequency response. The 0 position produces flat response.
TREBLE
Used to increase or decrease the high frequency response. The 0 position produces flat response.

⓰ BALANCE control
Adjusts the balance of the output volume to the left and right speakers to compensate for sound imbalance caused by speaker location or listening room conditions.

⓱ FM/AM buttons
Press this button to switch the reception band to FM or AM.

⓲ MEMORY (MAN'L/AUTO FM) button
When this button is pressed, the MEMORY indicator flashes for about 5 seconds. During this period, select a desired preset station number by pressing the corresponding preset station number selector button to enter the displayed station into the memory.
When this button is pressed and held for about 3 seconds, the automatic preset tuning begins. (Refer to page 25 for details.)

⓳ EDIT button
This button is used to exchange the places of two preset stations with each other.

⓴ TUNING DOWN/UP button
Used for tuning. Press the "UP" side to tune in to higher frequencies, and press the "DOWN" side to tune in to lower frequencies.

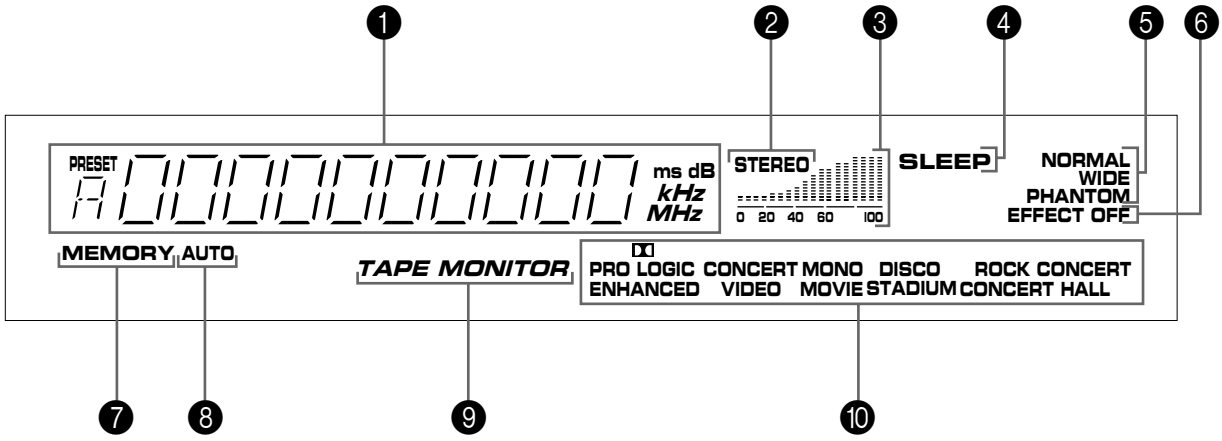
㉑ TUNING MODE (AUTO/MAN'L MONO) button
Press this button to switch the tuning mode to automatic or manual. To select the automatic tuning mode, press this button so that "AUTO" lights up on the display. To select the manual tuning mode, press this button so that "AUTO" goes off.

㉒ DELAY/CENTER/REAR/SWFR and TIME/LEVEL +/– buttons
Adjust the delay time (DELAY), the rear channel output level (REAR), center channel output level (CENTER) and the output level to the SUBWOOFER OUTPUT terminal (SWFR).
Select the item which you want to adjust by pressing the **DELAY/CENTER/REAR/SWFR** button and adjust its time or level by pressing the **TIME/LEVEL +/–** button.

㉓ CENTER MODE button
Selects a center channel output mode (NORMAL, WIDE or PHANTOM). (For details, refer to page 18.)

㉔ VIDEO AUX terminals
Connect an auxiliary video or audio input source unit such as a camcorder to these terminals. The source connected to these terminals can be selected by the corresponding input selector button.

DISPLAY PANEL



1 Multi-information display
Displays various information, for example station frequency, preset station number and name of selected input source.

2 STEREO indicator
Lights up when an FM stereo broadcast with sufficient signal strength is received.

3 Signal-level meter
Indicates the signal level of the received station.
If multipath interference is detected, the indication decreases.

4 SLEEP indicator
Lights up while the built-in SLEEP timer is functioning.

5 Center channel mode indicators
The name of a selected center channel mode lights up only when a program which uses the Dolby Pro Logic Surround decoder is selected.

6 EFFECT OFF indicator
Lights up if neither the digital sound field processor nor the Dolby Pro Logic Surround decoder is on. In this state, sound output is 2-channel stereo.

7 MEMORY indicator
When the **MEMORY** button is pressed, this indicator flashes for about 5 seconds. During this period, the displayed station can be programmed to the memory by using the **A/B/C/D/E** button and the preset station number selector buttons.

8 AUTO indicator
Lights up when this unit is in the automatic tuning mode.

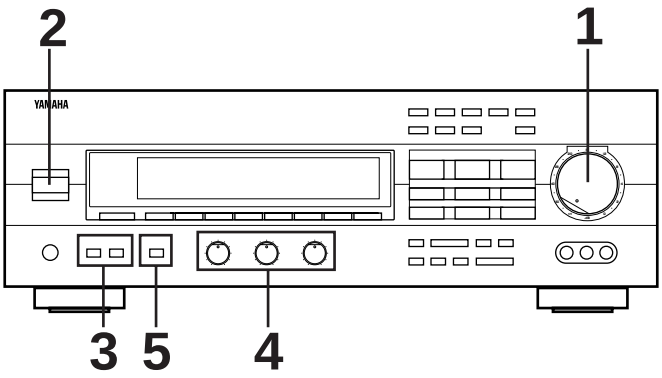
9 TAPE MONITOR indicator
Lights up when the tape deck (or MD recorder etc.) is selected as the input source by pressing the **TAPE (MD) MON** button.

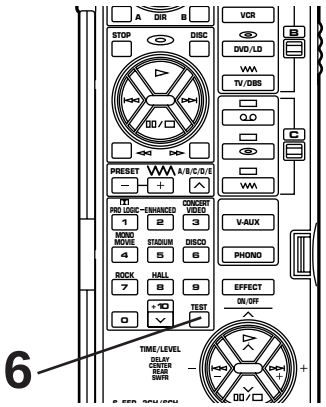
10 DSP program indicators
The name of a selected DSP program lights up when the built-in digital sound field processor and/or the Dolby Pro Logic Surround decoder is on.

SPEAKER BALANCE ADJUSTMENT

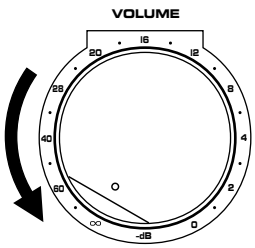
This procedure lets you adjust the sound output level balance between the main, center, and rear speakers using the built-in test tone generator. When this adjustment is performed, the sound output level heard at the listening position will be the same from each speaker. This is important for the best performance of the digital sound field processor and the Dolby Pro Logic Surround decoder.

The adjustment of each speaker output level should be done at your listening position with the remote control transmitter. Otherwise, the result may not be satisfactory.



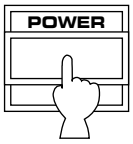


1

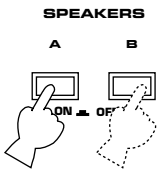


Set to the "∞" position.

2 Turn the power on.

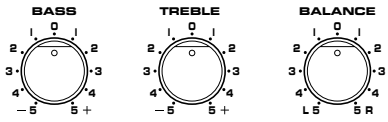


3 Select the main speakers to be used.



* If you use two main speaker systems, press both the A and B switches.

4

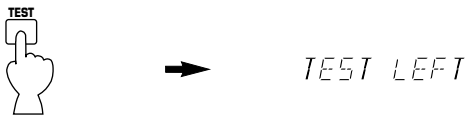


Set to the "0" position.

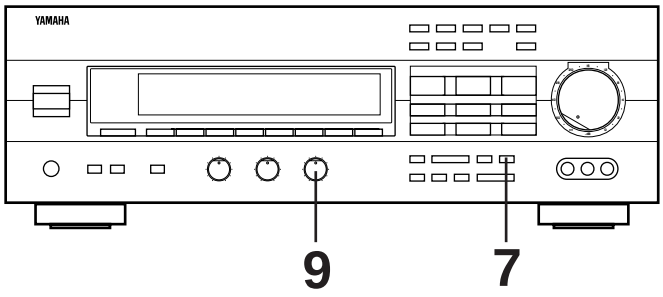
5

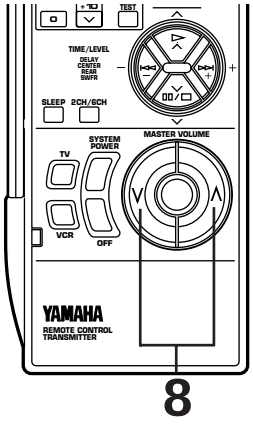
Set to the "OFF ( )".

6

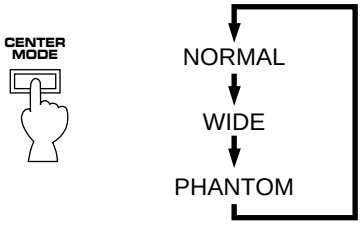


CONTINUED





7 Select the center channel output mode suitable for your speaker configuration.
(Refer to "**SPEAKER CONFIGURATION**" on page 6.)



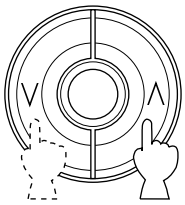
On the feature of each mode, refer to the "**Note**" shown below.

Note
In step 7, when you select a center channel output mode, note the following.

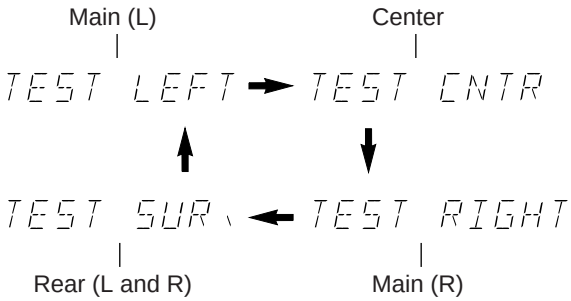
For 5 speaker configuration)
NORMAL: Select this mode when you use a center speaker that is smaller than the main speakers. In this mode, the bass tone will be output from the main speakers.
WIDE: Select this mode when you use the center speaker approximately same sized as the main speakers.

For 4 speaker configuration)
PHANTOM: Select this mode when you do not use the center speaker. The center sound will be output from the left and right main speakers.

8 Turn up the volume.

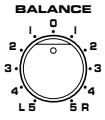


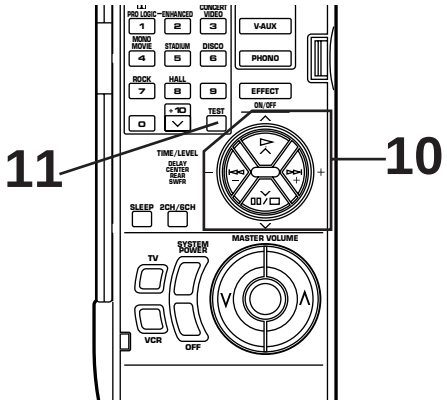
You will hear a test tone (like pink noise) from the left main speaker, then the center speaker, then the right main speaker, and then the rear speakers, for about two seconds each. The display changes as shown below.



* The test tone from the left rear speaker and the right rear speaker will be heard at the same time.

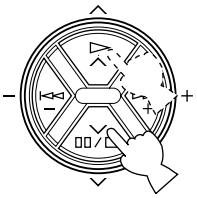
9 Adjust the **BALANCE** control so that the effect sound output level of the left main speaker and the right main speaker are the same.



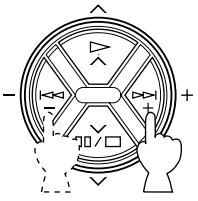


10 Adjust the sound output levels of the center speaker and the rear speakers so that they become almost as same as that of the main speakers.

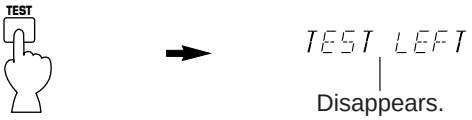
a) Press once or more so that “CENTER” or “REAR” appears on the display.
   * Select “CENTER” to adjust the output level of the center speaker, and select “REAR” to adjust the output level of the rear speakers.



b) Adjust its level.
   * Pressing the **+** side raises and the **–** side lowers the level.



11 Cancel the test tone.

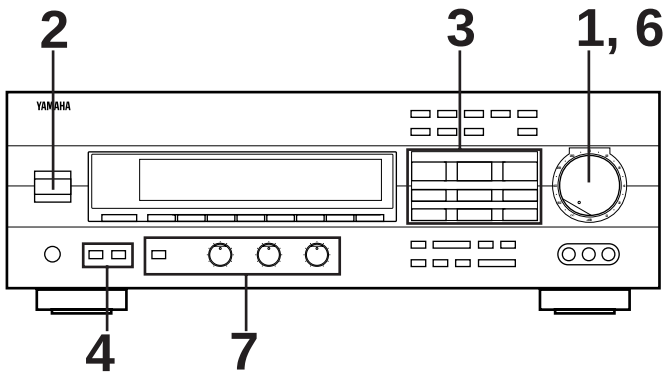


Notes

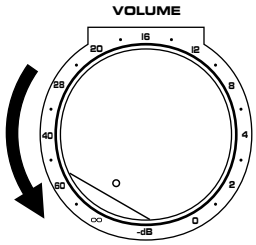
- Once you have completed these adjustments, you can adjust whole sound level on your audio system by using the **VOLUME** control (or the **MASTER VOLUME** keys on the remote control transmitter) only.
- If you use external power amplifiers, you may also use their volume controls to achieve proper balance.
- In step 10, if the center channel mode is in the “PHANTOM” position, the sound output level of the center speaker cannot be adjusted. This is because in this mode, the center sound is automatically output from the left and right main speakers.

BASIC OPERATIONS

TO PLAY A SOURCE

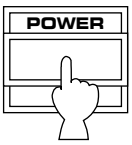


1

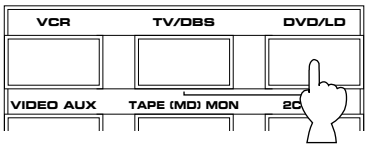


Set to the "∞" position.

2 Turn the power on.

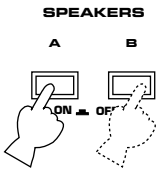


3 Select the desired input source by using the input selector buttons.
(For video sources, turn the TV/monitor ON.)



* The name of the selected input source will appear on the display.

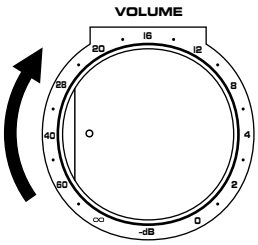
4 Select the main speakers to be used.



* If you use two main speaker systems, press both the A and B switches.

5 Play the source. (For detailed information on the tuning operation, refer to page 23.)

6



Adjust to the desired output level.

7 If desired, adjust the **BASS, TREBLE, BALANCE** controls, etc. (refer to page 22.) and use the digital sound field processor. (Refer to page 28.)

Notes on using the input selector buttons

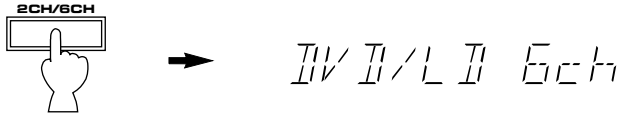
- Note that pressing on each input selector button selects the source which is connected to the corresponding input terminals on the rear panel.
  * To select the source connected to the **VIDEO AUX** terminals on the front panel, press **VIDEO AUX**.
- The selection of **TAPE (MD) MON** cannot be canceled by pressing another input selector button. To cancel it, press **TAPE (MD) MON** again so that "TAPE MONITOR" disappears from the display.
  When you select a button other than **TAPE (MD) MON**, make sure that "TAPE MONITOR" is not illuminated on the display.
- If you select the input selector button for a video source without canceling the selection of **TAPE (MD) MON**, the playback result will be the video image from the video source and the sound from the audio tape (or MD etc.).
- Once you play a video source, its video image will not be interrupted even if the input selector button for an audio source is selected.

To turn off the power

Press the **POWER** switch again.

To listen to a decoded source using Dolby Digital (AC-3) by reproducing the signals input to the 6CH DISCRETE INPUT DVD/LD TV/DBS terminals of this unit.

In step 3, select **TV/DBS** or **DVD/LD**, and then press the **2CH/6CH** button so that “6ch” appears on the display. Discrete signals from the unit connected to the 6CH DISCRETE INPUT DVD/LD TV/DBS terminals of this unit are selected as the input signals.



To cancel it, press the **2CH/6CH** button again or select another input source.

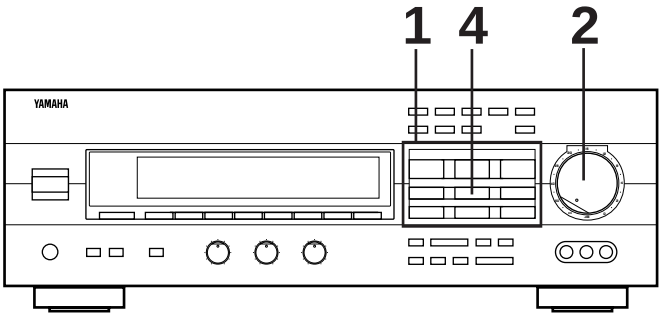
Note for reproducing discrete signals with Dolby Digital (AC-3) decoded:

1. Your speaker system must include a center speaker.
2. Your speaker system must include a subwoofer.
   * Connect a subwoofer which has a built-in amplifier to the SUBWOOFER OUTPUT terminal of this unit.
   * You can do without using a subwoofer. If you do so, you should make a setting for distributing signals at the LFE channel to the right and left MAIN output terminals on the Dolby Digital (AC-3) Decoder unit.
     For details, refer to the owner’s manual for the Dolby Digital (AC-3) Decoder unit.

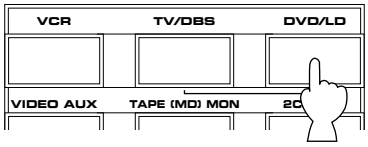
Notes

- When you switch to the “6CH” mode, the built-in Digital Sound Field processor will not work and adjustment of delay time cannot be made.
- Switching this unit to the “6CH” mode will input no signal to this unit if there is no connection to the 6CH DISCRETE INPUT DVD/LD TV/DBS terminals of this unit.

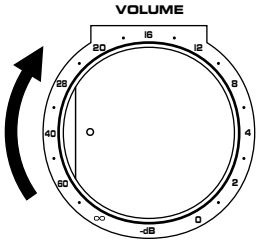
TO RECORD A SOURCE TO TAPE (OR MD)



1 Select the source to be recorded.

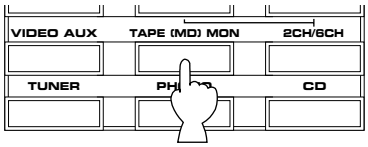


2 Play the source and then turn the **VOLUME** control up to confirm the input source. (For detailed information on the tuning operations, refer to the page 23.)



3 Begin recording on the tape deck (or MD recorder etc.) or VCR connected to this unit.

4 If the tape deck (or MD recorder etc.) is used for recording, you can monitor the sounds being recorded by pressing **TAPE (MD) MON** so that “TAPE MONITOR” lights up on the display.

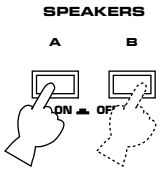


Notes

- The settings of DSP and the **VOLUME, BASS, TREBLE, BALANCE** controls and the **BASS EXTENSION** switch have no effect on the material being recorded.
- In step 1, do not make an input source selection so that “6ch” appears on the display. Signals input to this unit’s 6CH DISCRETE INPUT DVD/LD TV/DBS terminals cannot be recorded by a tape deck, MD recorder or VCR.

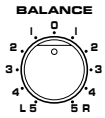
Selecting the SPEAKER system

Because one or two speaker systems (as main speakers) can be connected to this unit, the **SPEAKERS** switches allow you to select speaker system **A** or **B**, or both at once.



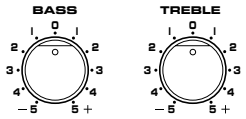
Adjusting the BALANCE control

Adjust the balance of the output volume to the left and right speakers to compensate for sound imbalance caused by speaker location or listening room conditions.



Note
This control is effective only for the sound from the main speakers.

Adjusting the BASS and TREBLE controls



BASS : Turn this clockwise to increase (or counter-clockwise to decrease) the low frequency response.

TREBLE : Turn this clockwise to increase (or counter-clockwise to decrease) the high frequency response.

Note
These controls are effective only for the sound from the main speakers.

Using the BASS EXTENSION switch

You can boost bass frequency response by setting this switch to the "**ON**" position. This switch is effective only on the sound from the main speakers.